REMARKS

Claims 1-19 are pending and stand rejected.

Claim1 has been cancelled.

Claims 2 and 3 have been amended to more precisely define the invention. Claim 4 has been amended to depend from claim 2. It is believed that no new matter has been added by the amendments.

Applicant's Invention:

Applicant's claimed invention is a composite product comprised of a layer of polystyrene structural plastic having a 0.1 to about 2.5 mm thin protective layer of a blend of an acrylic ester polymer and acrylic polymeric additive. Specifically, the Applicant has discovered that polystyrene and an acrylic can be co-extruded to produce a multilayered sheet exhibiting strong adhesion between acrylic and polystyrene layers if the acrylic layer is a blend of an acrylic ester polymer and acrylic polymeric additive. The fact that a strongly adhering multiple-layer sheeting can be obtained from an acrylic and polystyrene in accordance with the present invention is indeed surprising, since other polymeric materials normally incompatible with polystyrene cannot be co-extruded with polystyrene to yield a satisfactorily adhering multilayered product.

35 U.S.C. § 102(e)

Claim 1 stands rejected under 35 U.S.C. 102(e) as being anticipated by Tadokoro et al, U.S. Patent Number 6,444,298B1. The examiner states that the Tadokoro reference discloses a laminate comprising an acrylic resin containing no impact resistant material layer and an acrylic resin composition containing an acrylic resin and acrylic rubber particles layer (Fig. 2, col. 3, lines 20-31). The Tadokoro reference fails to teach or disclose all of the elements of Applicant's amended claims, and therefore fails to present a *prima facie* case of anticipation. Specifically the Tadokoro reference fails to teach or

disclose 1) a composite product of a polystyrene structural plastic, or 2) an acrylic capstock comprised of a blend of an acrylic ester polymer and acrylic polymeric additive.

1) The Tadokoro reference further fails to teach or disclose Applicant's claim element of a composite product comprised of a layer of polystyrene structural plastic. The acrylic resin outer polymer of the Tadokoro reference covers a blend of an acrylic resin with acrylic rubber particles. An acrylic resin/acrylic rubber particle layer is not the same as the polystyrene structural plastic in Applicant's claims.

2) The Tadokoro reference discloses a laminate having an acrylic outer layer and an acrylic resin/acrylic rubber particle blend on the inner layer. There is no disclosure in the Tadokoro reference that the outer acrylic layer be composed of an acrylic composition comprised of a blend of an acrylic ester resin and acrylic polymeric additive, as claimed by Applicant. The Tadokoro reference teaches only that the outer acrylic layer contains no impact resistant material, and that it may be compounded with various additives. The additives listed are those usually used, such as coloring agents, antioxidants, antistatic agents, and surfactants. (column 5, lines 24 – 35). None of the listed references is an acrylic additive. Moreover, the Examples describe only an "acrylic resin", with no disclosure that the outer layer be a blend of anything, much less a blend of an acrylic ester resin and acrylic polymeric additive.

3) The Tadokoro reference further fails to teach or disclose Applicant's claim element of a capstock for polystyrene structural plastics. The acrylic resin outer polymer of the Tadokoro reference covers a blend of an acrylic resin with acrylic rubber particles. An acrylic resin/acrylic rubber particle layer is not the same as the polystyrene structural plastic in Applicant's claims.

4) Further, it is no surprise that the Tadokoro reference fails to teach all of the elements of Applicant's claims, since it solves an entirely different problem in a different art. The Tadokaro invention solves the problem of poor flexibility of acrylic resins. Applicant's structural plastic is a polystyrene, not an acrylic. These different chemical

arts exhibit different challenges, and one of skill in the art would not be motivated by a teaching in one art to practice in the other. Applicant's invention solves the problem of generally poor adhesion between polystyrene and an acrylic resin. Since the Tadokoro reference deals with two acrylic resins, adhesion is not an issue, and one in the art would find no motivation to apply the solution of the Tadokoro flexibility problem in an acrylic resin to solve the problem of polystyrene/acrylic adhesion.

35 U.S.C. § 103(a)

Claims 2-18 stands rejected under 35 U.S.C. 103(a) as being anticipated by Birch et al, U.S. Patent Number 6,420,050B2. The Examiner states that the Birch reference discloses a laminate structure made by a co-extrusion feed block process (Example 12). The laminate structure comprises a core layer (B) of polymer such as polypropylene (claim 2), polystyrene (claim 11) (col. 9, line 8 to col. 10, line 7) and skin layer (A) comprises a blend of acrylic polymers (col. 3, line 20 to col. 4, line 52). The use of functionized block copolymer is what provides the adhesion between the layers.

The Birch reference fails to teach or suggest all of Applicant's claim limitations, and therefore fails to present a *prima facie* case of obviousness. In particular, The Birch reference fails to teach or suggest Applicant's claim limitations of 1) a polystyrene structural plastic, or 2) a protective layer that is a blend of an acrylic ester polymer and an acrylic polymeric additive.

1) The Birch reference fails to teach or suggest a polystyrene structural plastic. The Birch reference teaches instead crystalline or semi-crystalline polyolefins, primarily polyethylene, and polypropylene. The Examiner points to Claim 12 of Birch in which the aromatic vinyl polymer of the core material comprises polystyrene. This claim depends from claim 9 in which the structural polymer contains a blend of 30 to 70 percent of an olefinic polymer, and 7 to 65 percent of an aromatic vinyl polymer. The polyolefin/polystyrene polymer blend must still have the characteristics of a semicrystalline or crystalline olefinic polymer (col. 9, lines 8 and 9). The addition of some polystyrene does not change the basic olefinic nature of the core material. One in

the art would not be motivated by the teaching of the Birch reference concerning a polyolefin blended with some polystyrene, to practice a polystyrene core material. These are different materials with different properties. Nor would one in the art arrive at Applicant's claims from the Birch reference by routine experimentation, since the polystyrene additive is not shown to be an effective variable. Finally, the Birch reference teaches away from a core material containing any polystyrene by exemplifying only polypropylene homopolymers as the core materials, demonstrating that polystyrene, or any other additive, is not required for the invention to work.

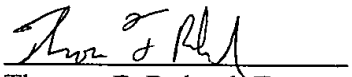
2) The Birch reference fails to teach or suggest Applicant's claim limitation of a protective layer that is a blend of an acrylic ester polymer and an acrylic polymeric additive. The Birch reference does disclose that the cap layer have at least 50 percent of poly(meth)acrylate ester polymers, or blends thereof. However, the capstock composition of the Birch reference is different from Applicant's claims in that it also requires either a block copolymer of a vinyl aromatic monomer and an aliphatic conjugated diene, or else an olefin acrylate copolymer. There is no teaching or suggestion that the acrylic capstock must be a blend of anything, much less a blend of an acrylic ester polymer and an acrylic polymeric additive. The Birch reference teaches away from such a capstock by teaching and exemplifying only capstocks containing block copolymers.

3) Further, the Birch reference solves a different problem While the problem solved by the Birch reference does relate to adhesion of coextruded layers of plastics, it is for adhesion to a polyolefin, not a polystyrene. The Birch problem is solved by matching the chemical properties of the capstock to the polyolefin core material through the incorporation of similar monomers or block copolymers, i.e. blending into the acrylic capping layer either vinyl aromatic block copolymers, or olefin acrylate copolymers. The problem solved by Applicant is the adhesion of acrylic resin to polystyrene structural plastics, and the solution is to coextrude a polystyrene structural plastic with a blend of an acrylic ester polymer and an acrylic polymeric additive. Applicant's solution is

surprising, especially given that the claimed capstock does not contain any units derived from the styrene of butadiene monomer units found in various polystyrenes.

Since the cited references fail to present *prima facie* cases of anticipation or obviousness, Applicant believes that the reasons for rejection have been overcome, and the claims herein should be allowable to the Applicant. Accordingly, reconsideration and allowance are requested.

Respectfully submitted,



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